

CHAPTER 3 – FACILITY REQUIREMENTS

LAKE HAVASU CITY MUNICIPAL AIRPORT LIMITED MASTER PLAN UPDATE

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3.1 OVERVIEW

The facility requirements element of the master planning process serves to quantify specific airport improvements necessary, such as additional hangars or increased separation distances between facilities, to meet the existing and forecast aviation demand at the airport through the 20-year planning window.

The 1994 Master Plan facility requirements identified a list of airport improvement needs under three categories: airside, passenger terminal area, and landside. Airside facilities included the runway, taxiways, nav aids, and airfield lighting and marking. The passenger terminal area included three elements: terminal building, terminal gate positions, and terminal auto parking. Landside facilities included the remaining airport elements: hangars, apron tiedowns, fuel storage, general aviation terminal, additional auto parking, and airport access.

The purpose of the Limited Master Plan Update facility requirements element is to validate and update, as appropriate, those requirements previously presented in the 1994 Plan. This was accomplished by:

- reviewing the results of the updated aviation demand forecasts to identify changes, if any, in the character and levels of aviation activity previously projected in the 1994 Plan;
- reviewing the 1994 Plan's facility requirements to determine whether the updated forecasts require modifications to those needs;
- reviewing the recent development projects accomplished at the airport since 1994 to determine which 1994 Plan facility requirements have been met; and
- identifying any other airport deficiencies that exist based on current conditions and airport-related staff input.

Table 3-1 summarizes this effort. For comparison, the four columns in Table 3-1 list the existing conditions at the airport in 1994, the 1994 Plan's facility requirements, the development projects accomplished since the 1994 Plan, and the facility requirements identified for the Limited Master Plan Update.

3.2 AIRSIDE

The major airside facility needs include the 2500-foot runway/parallel taxiway extension, pavement strengthening (100,000 lbs. DWL), the taxiway relocation to meet the 400-foot runway-to-taxiway separation requirement, and the ultimate GPS approach.

Table 3-1 (1 of 2)
Facility Requirements

Facility Element (Existing in 1994)	1994 Master Plan Facility Requirements	Development since 1994 Master Plan	Limited Master Plan Total Facility Requirements
AIRSIDE			
<u>Runway 14/32</u> 5500 X 100 30,000 lbs SWL	8000 X 100 150,000 lbs DWL		8000 X 100 100,000 lbs DWL
<u>Taxiways</u> Connecting parallel taxiway 340' separation from runway	Extend w/runway extension		Extend w/runway extension Realignment at 400' separation
<u>Nav aids</u> Runway: 14/32 NDB & VOR PAPI-4 REIL	Runway 32: ILS/GPS	NDB deactivated (after failed FAA checks)	Runway 14/32: GPS approach
<u>Lighting & Marking</u> Runway: MIRL, visual Taxiway: MITL, centerline	Runway: precision Taxilanes: edge	Runway: 4 distance markers Taxiway B: 3 signage	Runway: precision Taxilanes: edge
PASSENGER TERMINAL AREA			
<u>Terminal Building</u> 5700 S.F.	4000 – 6100 S.F.		3000 – 3800 S.F.
<u>Terminal Gate Positions</u> Gates: 1 commuter Apron: 8000 S.Y.	Gates: 1 regional, 3 commuters Apron: 9500 S.Y.		Gates: 2 commuter Apron: 4000 S.Y.
<u>Auto Parking</u> 163 spaces	81 spaces		50 spaces

Table 3-1 (2 of 2)
Facility Requirements

Facility Element (Existing in 1994)	1994 Master Plan Facility Requirements	Development since 1994 Master Plan	Limited Master Plan Total Facility Requirements
LANDSIDE			
<u>Conventional Hangars</u>			
8000 S.F.	93700 S.F.	37480 S.F.(20 hangars) 8000 S.F. (under construction)	91220 S.F. total (37480 S.F. balance)
<u>T-hangars/Shades</u>			
48	144		140
<u>Apron Tiedowns</u>			
194 total spaces Area: 60900 S.Y.	183 total spaces Area: 59400 S.Y.	74 total spaces Area: 22300 S.Y.	No additional apron tiedown spaces needed as result of 1994 apron development.
<u>Fuel Storage</u>			
36000 gallons (monthly)	59800 gal. (monthly)		48300 gal (monthly)
<u>GA Terminal</u>			
N/A (utilize FBO facilities)	2600 S.F.		2200 S.F.
<u>GA Auto Parking/Access</u>			
Positions: 65 Area: 23000 S.Y	Positions: 122 Area: 42700 S.Y		Positions: 112 Area: 39200 S.Y Access road south of channel
<u>Miscellaneous</u>		Auxiliary Windsock Emergency Generators (2) Restroom	Wash Rack

3.2.1 Runway/Taxiway

The runway/taxiway extension and pavement strengthening projects were identified in the 1994 Plan and are currently programmed in the airport's Five-Year Capital Improvement Program (CIP). While the 1994 Plan did identify the pavement strengthening need as 150,000 lbs. DWL, this has been modified to 100,000 lbs. DWL as per FAA Advisory Circular 150/5320-6D.

The parallel taxiway relocation project is not currently programmed. Further, this project was not included in the 20-Year CIP for the airport in the 1994 Plan nor has it been included in any airport layout plan (ALP) revisions. While the 1994 Plan did identify the fact that the existing runway-to-taxiway separation is only 340 feet and that the standard for the aircraft family forecast to operate at the airport is 400 feet, no additional discussion was presented. Thus, it is not clear whether a modification to this standard has been requested and approved from the FAA. The FAA is currently researching this issue, and at the present time has not found any record or documentation in reference to the existing runway-to-taxiway separation. For the purpose of this study, it is assumed that the identification of facility requirements includes improvements necessary to bring the airport into compliance with FAA standards.

3.2.2 Nav aids

The 1994 Plan identified the need for an ILS or GPS approach to Runway 32. The Limited Master Plan Update recommends LHC Municipal Airport pursue the GPS versus the ILS approach for Runway 32 due to FAA plans to phase-out ILS systems beginning 2005 per the Navigational Aids and Aviation Services Special Study by the Arizona Department of Transportation.

3.3 PASSENGER TERMINAL AREA

The facility requirements of the passenger terminal area identified for LHC Municipal Airport in 1994 included a terminal building up to 6,100 S.F. and an apron area to accommodate 4 terminal gate positions (1 regional, 3 commuter) by the end of the planning period, 2015. These requirements have been adjusted using the updated forecasts. The adjusted terminal building size for the year 2015 demand is calculated at 4,800 S.F. with a need for two commuter gate positions and no regional gate positions. These requirements are quite similar to those identified in the 1994 Plan, but for the year 2000 rather than 2015. This is because the passenger activity levels in the updated forecasts for the year 2015 are similar to the 1994 Plan's forecast for the year 2000.

Passenger terminal parking required to accommodate the revised enplanement levels for 2015 total 50 spaces rather than the 81 identified in the 1994 Plan.

The facility requirements of the passenger terminal area are based on LHC Municipal Airport's 26% capture of the market within its service area as indicated in the Arizona 1998 Air Service

Study. If the airport makes improvements in capturing more of the market, recalculation of the facility requirements will be necessary.

3.4 LANDSIDE

Hangars, apron tiedowns, fuel storage, GA terminal, auto parking, and airport access are included under the Landside category of airport facilities.

3.4.1 T-Hangar/Shades

The Limited Master Plan projects 140 T-Hangar/shade positions based on the adjusted based aircraft forecast. In comparison, the 1994 Plan identified the ultimate need for 144 T-hangars/shade positions, only 4 positions more than the Limited Master Plan. Approximately 92 additional T-hangar/shades will be required by 2015 to meet projected demand.

3.4.2 Conventional Hangars

The 1994 Plan identified the ultimate need for 93,700 S.F. of conventional hangar area. Based on the updated based aircraft forecast, the revised facility requirements are nearly the same as the 1994 Plan reflecting a need for approximately 91,220 S.F. of conventional hangar area. The airport has constructed 20 new City-owned hangars since the 1994 Plan and approximately 8,000 S.F. of facilities are currently under construction. Consequently, approximately 37,740 S.F. of additional area for conventional hangars will be needed by the end of the planning period.

3.4.3 Apron Tie-down

At present, there are 83,200 S.Y. of apron tiedown space available at LHC Municipal Airport, which includes 22,300 S.Y. of new tie-down apron developed since the 1994 Master Plan. According to the adjusted aircraft operations projection, the available apron tie-down space is adequate to accommodate the demand within the planning period.

3.4.4 Fuel Storage

Due to the lower total operations forecast in the Limited Master Plan Update, monthly fuel storage needs are estimated approximately 11,500 gallons less than the 59,400-gallon projection in the 1994 Plan. The update proposes monthly fuel storage of 48,300 gallons by the year 2015.

3.4.5 GA Terminal

While a GA terminal is still recommended in the Limited Master Plan Update, the size requirements for 2015 can be reduced to 2,200 S.F to reflect the lower activity levels compared to the 1994 Plan which projected a total of 2,600 S.F.

3.4.6 Auto-Parking

Based on updated forecasts, auto-parking requirements are approximately 8% lower to accommodate the adjusted aviation demand levels. The reduced parking requirements total 112 spaces or 39,200 S.Y. The 1994 Plan identified the need for 122 parking spaces totaling 42,700 S.Y.

3.4.7 Airport Access

Currently, there is an on-going project to extend the northwest access road to support general aviation development. This project has been designed and programmed under Lake Havasu City Project Number A-108-97. Additional excess road development will be necessary to support planned development south of the drainage channel.

Access to and from the airport is currently provided via privately owned vehicles, rental cars, and taxi service. Other modes of transportation, such as an airport shuttle, can be provided once the demand for such service is realized. A ground transportation study is recommended to develop a program that would best meet the needs of the airport and community.

3.4.8 Miscellaneous

Aircraft owners must wash their aircraft as part of the annual maintenance requirement under FAA Part 143. At present, there is no wash rack facility at LHC Municipal Airport, and as a result, aircraft owners are forced to take their aircraft to other airports for washing in order to comply with FAA Part 143. A new wash rack is recommended for LHC Municipal Airport in order to overcome this deficiency.

3.5 BEYOND 2015

It is important to consider airport needs beyond the master planning period to ensure that ultimate development is not precluded, limited, or too costly as a result of short-term planning and development. Examples of this include constructing facilities, such as terminal buildings, which do not provide practical expansion opportunities, or not purchasing or adequately

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protecting adjacent airport property that may be needed for long-term airport expansion. Thus, the Limited Master Plan Update recommends that all facility requirements identified be presented in alternative development concepts. The development concepts take into consideration long-term airport and community goals and objectives along with compatible land uses.



